

# MANUAL CHANGES

## MANUAL IDENTIFICATION

Model Number: 1740A  
 Date Printed: August 1976  
 Part Number: 01740-90909

This supplement contains important information for correcting manual errors and for adapting the manual to instruments containing improvements made after the printing of the manual.

To use this supplement:

Make all ERRATA corrections.

Make all appropriate serial number related changes indicated in the tables below.

Serial Prefix or Number		Make Manual Changes	Serial Prefix or Number		Make Manual Changes
1705A		1	2251A		1,A,2,3,4,5,6
1705A	03700	A	2306A		1,A,2,3,4,5,6,7
1729A		1,A,2			
1738A		1,A,2,3			
1914A		1,A,2,3,4			
2026A		1,A,2,3,4,5			

▲ NEW ITEM

## ▲ ERRATA

### Table 6-2. Replaceable Parts,

Change: A3, HP Part No. and Mfr Part No. to 01740-66530.

Change: A3 (OPTION 101), HP Part No. and Mfr Part No. to 01740-66531.

Change: A8, HP Part No. and Mfr Part No. to 01740-66532.

Change: A11, HP Part No. and Mfr Part No. to 01740-66533.

Change: DS2, HP Part No. and Mfr Part No. to 1990-0586.

Change: DS3, HP Part No. and Mfr Part No. to 1990-0586.

Change: DS4, HP Part No. and Mfr Part No. to 1990-0586.

Change: DS5, HP Part No. and Mfr Part No. to 1990-0586.

Change: E1, HP Part No. 0340-0630, INSULATOR-XSTR PWR TRANSISTOR KAPTON, Mfr Code 13103, Mfr Part No. 15029.

Change: MP21, HP Part No. and Mfr Part No. to 5040-0578.

Delete: MP37.

Change: MP54, HP Part No. and Mfr Part No. to 01740-04113.

Change: R11, HP Part no. and Mfr Part No. to 2100-3731.

Change: Q2, HP Part No. and Mfr Part No. to 1854-0803.

## NOTE

Manual change supplements are revised as often as necessary to keep manuals as current and accurate as possible. Hewlett-Packard recommends that you periodically request the latest edition of this supplement. Free copies are available from all HP offices. When requesting copies quote the manual identification information from your supplement, or the model number and print date from the title page of the manual.

7 February 1983

Page 1 of 8

HEWLETT  PACKARD

**ERRATA (Cont'd)**

Delete: XF1.

Add: XF1A, HP Part No. 2110-0564, 1, FUSEHOLDER BODY, Mfr Code 28480, Mfr Part No. 2110-0564.

Add: XF1B, HP Part No. 2110-0565, 1, FUSE CARRIER, Mfr Code 28480, Mfr Part No. 2110-0565.

Add: XF1C, HP Part No. 2110-0569, 1, NUT PLASTIC, Mfr Code 28480, Mfr Part No. 2110-0569.

Change: A3C6, HP Part No. and Mfr Part No. to 0160-4751.

Change: A3C11, HP Part No. and Mfr Part No. to 0180-2752.

Change: A3C16, HP Part No. and Mfr Part No. to 0160-4751.

Change: A3C25, HP Part No. and Mfr Part No. to 0180-2752.

Change: A3C54, HP Part No. and Mfr Part No. to 0160-3877.

Delete: A3C62.

Change: A3C67, HP Part No. and Mfr Part No. to 0160-4751.

Add: A3C79, HP Part No. 0160-3651, CAPACITOR-FXD 68 PF 200 W VDC CER, Mfr Code 72982, Mfr Part No. 8131-MO62-X7R-183K.

Add: A3C80, HP Part No. 0160-3651, CAPACITOR-FXD 68 PF 200 W VDC CER, Mfr Code 72982, Mfr Part No. 8131-MO62-X7R-183K.

Change: A3Q1, HP Part No. and Mfr Part No. to 5081-7656.

Change: A3Q2, HP Part No. and Mfr Part No. to 1855-0266.

Change: A3Q3, HP Part No. and Mfr Part No. to 5081-7656.

Change: A3Q4, HP Part No. and Mfr Part No. to 1855-0266.

Change: A3Q17, HP Part No. and Mfr Part No. to 1853-0314.

Change: A3R74, HP Part No. 0757-1022, RESISTOR 1.78K 1% .25W TC = 100, Mfr Code 24546, Mfr Part No. C5-1/4-TO-1781-F.

Add: A3R145, HP Part No. 0698-7196, RESISTOR 21.5 2% .05W TC = 0  $\pm$  100, Mfr Code 24546, Mfr Part No. C3-1/8-TOO-21R5-G.

Add: A3R146, HP Part No. 0698-7196, RESISTOR 21.5 2% .05W TC = 0  $\pm$  100, Mfr Code 24546, Mfr Part No. C3-1/8-TOO-21R5-G.

Add: A3XQ2, HP Part No. 1205-0095, HEAT SINK TRANSISTOR TO5, Mfr Code 13103, Mfr Part No. 2225B.

Add: A3XQ4, HP Part No. 1205-0095, HEAT SINK TRANSISTOR TO5, Mfr Code 13103, Mfr Part No. 2225B.

Change: A3XU1, HP Part No. and Mfr Part No. to 1200-0638.

Change: A3XU2, HP Part No. and Mfr Part No. to 1200-0638.

Change: A3XU3, HP Part No. and Mfr Part No. to 1200-0638.

Change: A3XU4, HP Part No. and Mfr Part No. to 1200-0638.

Change: A5C9, HP Part No. 0160-3569, CAPACITOR-FXD 27PF  $\pm$ 5% 100WVDC CER, Mfr Code 28480, Mfr Part No. 0160-3569.

Change: A5Q2, HP Part No. and Mfr Part No. to 1853-0473.

Change: A5Q4, HP Part No. and Mfr Part No. to 1853-0473.

Change: A5R8, HP Part No. 0757-0435, RESISTOR 3.92K 1% .125W TC = 0  $\pm$  100, Mfr Code 24546, Mfr Part No. C4-1/8-TO-3921-F.

Change: A5R11, HP Part No. 0757-0435, RESISTOR 3.92K 1% .125W TC = 0  $\pm$  100, Mfr Code 24546, Mfr Part No. C4-1/8-TO-3921-F.

Change: A5R25, HP Part No. 0757-0411, RESISTOR 332 1% .125W TC = 0  $\pm$  100, Mfr Code 24546, Mfr Part No. C4-1/8-TO-332R-F.

**ERRATA (Cont'd)**

Change: A7C13, HP Part No. 0180-0195, CAPACITOR-FXD .33UF  $\pm 20\%$  35VDC TA, Mfr Code 56289, Mfr Part No. 150D334X0035A2-DYS.

Change: A7CR10, HP Part No. 1901-0050, 1, DIODE SWITCHING 80V 200MA 2NS DO-35, Mfr Code 07263, Mfr Part No. FDH 6308.

Add: A7L11, HP Part No. 9170-0029, CORE-SHIELDING BEAD, Mfr Code 02114, Mfr Part No. 56-590-65A2/4A.

Add: A7L12, HP Part No. 9170-0029, CORE-SHIELDING BEAD, Mfr Code 02114, Mfr Part No. 56-590-65A2/4A.

Change: A7R63, HP Part No. 0698-3154, RESISTOR 4.22K 1% .125 WF TC =  $0 \pm 100$ , Mfr Code 28480, Mfr Part No. 0698-3154.

Change: A7R146, HP Part No. 0757-0430, RESISTOR 2.21K 1% .125WF TC =  $0 \pm 100$ , Mfr Code 28480, Mfr Part No. C4-1/8-TO-2211-F.

Change: A7R159, HP Part No. 0757-0446, RESISTOR 15K 1% .125WFTC =  $0 \pm 100$ , Mfr Code 24546, Mfr Part No. C4-1/8-TO-1502-F.

Change: A7U1, HP Part No. and Mfr Part No. to 1826-0059.

Change: A7U3, HP Part No. and Mfr Part No. to 1826-0059.

Change: A7U4, HP Part No. 1821-0002, TRANSISTOR ARRAY 14-PIN, Mfr Code 01921, Mfr Part No. CA3045.

Change: A7XU2, HP Part No. and Mfr Part No. to 1200-0607.

Change: A7XU4, HP Part No. and Mfr Part No. to 1200-0607.

Add: A8L3, HP Part No. 9170-0029, CORE-SHIELDING BEAD, Mfr Code 02114, Mfr Part No. 56-590-65A2/4A.

Change: A9U1, HP Part No. and Mfr Part No. to 1826-0059.

Change: A10Q1, HP Part No. and Mfr Part No. to 1855-0213.

Change: A11R9, HP Part No. 0757-0394, RESISTOR 51.1 1% .125WF TC =  $0 \pm 100$ , Mfr Code 24546, Mfr Part No. C4-1/8-TO-51R1-F.

Change: A11R10, HP Part No. 2100-3351, RESISTOR-TRMR C SIDE-ADJ 500 OHM 10% 1-TRN, Mfr Code 01121, Mfr Part No. E4A102.

Change: A11R15, HP Part No. 2100-3351, RESISTOR-TRMR C SIDE-ADJ 500 OHM 10% 1-TRN, Mfr Code 01121, Mfr Part No. E4A102.

Change: A12XU1, HP Part No. and Mfr Part No. to 1200-0638.

Delete: A15C15.

Change: A15CR1, HP Part No. 1901-0873, DIODE-PWR RECT 600V 1A, Mfr Code 28480, Mfr Part No. 1901-0873.

Change: A15CR2, HP Part No. 1901-0873, DIODE-PWR RECT 600V 1A, Mfr Code 28480, Mfr Part No. 1901-0873.

Change: A15CR3, HP Part No. 1901-0873, DIODE-PWR RECT 600V 1A, Mfr Code 28480, Mfr Part No. 1901-0873.

Change: A15CR4, HP Part No. 1901-0873, DIODE-PWR RECT 600V 1A, Mfr Code 28480, Mfr Part No. 1901-0873.

Change: A15CR5, HP Part No. 1901-0873, DIODE-PWR RECT 600V 1A, Mfr Code 28480, Mfr Part No. 1901-0873.

Change: A15CR6, HP Part No. 1901-0873, DIODE-PWR RECT 600V 1A, Mfr Code 28480, Mfr Part No. 1901-0873.

Add: A15CR8, HP Part No. 1901-0040, DIODE-SWITCHING-30V 50NA 2NS DO-35, Mfr Code 28480, Mfr Part No. 1901-0040.

Change: A15R3, HP Part No. 0687-6841, RESISTOR 680K 10% .5W TC =  $0 + 882$ , Mfr Code 01121, Mfr Part No. EB6841.

Delete: A15R25.

Delete: A15VR1.

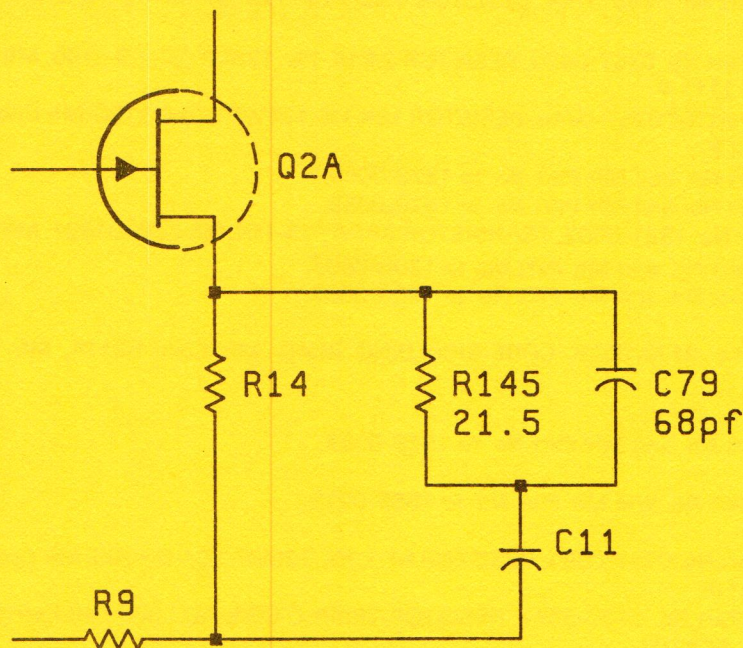
**ERRATA (Cont'd)**

Service Schematic 2,

Change: 1ST ACCELERATOR to ground connection.

Service Schematic 4,

Add: A3R145 and A3C79 in series with A3C11 to Channel A, as shown.



Add: A3R146 and A3C80 in series with A3C25 (same as above) to Channel B.

Service Schematic 8,

Add: A8L3 in series with A8L2.

Service Schematic 11,

Add: A7L11 to the base of A7Q23.

Add: A7L12 to the base of A7Q27.

**CHANGE 1**

Table 6-2,

R3, R4: Add to description: (FACTORY SELECTED VALUE).

A5A1: Change HP Part No. and Mfr Part No. to 1NA9-8005.

A5C17: Add to description: (LOADED ONLY WHEN REQUIRED AT THE FACTORY).

A5VR1: Change to HP Part No. 1902-3059, DIODE-ZNR 3.83V 5% PD=.4W, Mfr Code 28480, Mfr Part No. 1902-3059.

Schematic 5,

Add A5C17, 3.3PF, in parallel with A5R21. Add note to A5C17: (LOADED ONLY WHEN REQUIRED AT THE FACTORY).

Change A5VR1 to 3.83V.

**CHANGE A**

Table 6-2,

Add: A15CR8, HP Part No. 19101-0040, DIODE-SWITCHING 30V 50MA 2NS D0-35, Mfr Code 28480, Mfr Part No. 19101-0040.

Change: A15R30, HP Part No. 0757-0437, RESISTOR 4.75K 10% .25W FC TC=-400/+700, Mfr Code 24546, Mfr Part No. C4-1/8-TO-4751-F.

Change: A15R31, HP Part No. 0698-3449, RESISTOR 38.7K 1% .125W F TC=+-100, Mfr Code 24546, Mfr Part No. C4-1/8-TO-2872-F.

Add: A15R33, HP Part No. 0757-0437, RESISTOR 4.75K 10% .25W FC TC=-400/+700, Mfr Code 24546, Mfr Part No. C4-1/8-TO-4751-F.

Add: A15R34, HP Part No. 0683-1025, RESISTOR 1K 5% .25W FC TC=-400/+600 Mfr Code 01121, Mfr Part No. CB1025.

Add: A15VR2, HP Part No. 1902-0766, DIODE-ZNR 18.2V 5% D0-7 PD=.4W TC=+.68%, Mfr Code 04713, Mfr Part No. SZ 10939-257.

Schematic 2, Change HV DISABLE Q1/Q2 circuitry as follows:

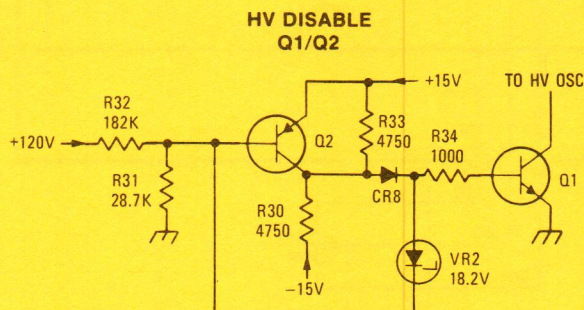
**CHANGE 2**

Table 6-2,

R12: Change to HP Part No. 2100-1439, RESISTOR-VAR 1K C, Mfr Code 04485, Mfr Part No. T200.

W8: Change to HP Part No. 01743-61605, CABLE ASSY: CRT, Mfr Code 28480, Mfr Part No. 01743-61605.

Add: W9, HP Part No. 01743-61606, CABLE ASSY: SCALE POT, Mfr Code 28480, Mfr Part No. 01743-61606.

A16: Change HP Part No. and Mfr Part No. to 01740-66537.

Delete: A16C20, A16Q11, A16Q12, A16R41, A16R42, A16R43, A16VR3, and A16VR4.

Add: A16C21, HP Part No. 0180-0100, CAPACITOR-FXD 4.7UF +-10% 35WVDC, Mfr Code 03923, Mfr Part No. D4R7B35KI.

Add: A16CR8, HP Part No. 1901-0040, DIODE-SWITCHING 30V 50MA 2NS D0-35, Mfr Code 28480, Mfr Part No. 1901-0040.

Add: A16P5, HP Part No. 1251-3192, CONNECTOR 3 PIN M POST TYPE, Mfr Code 03418, Mfr Part No. 09-60-1031.

Add: A16Q13, HP Part No. 1854-0472, TRANSISTOR NPN SI DARL PD=500MW, Mfr Code 02037, Mfr Part No. SPS6707.

Add: A16Q14, HP Part No. 1854-0558, TRANSISTOR NPN SI DARL PD=70W, Mfr Code 02037, Mfr Part No. SJE723.

Add: A16R44, R45, HP Part No. 0757-0477, RESISTOR 332K 1% .125W F, Mfr Code 01074, Mfr Part No. H8.

Add: A16R46, HP Part No. 0757-0429, RESISTOR 1.82K 1% .125W F, Mfr Code 01074, Mfr Part No. H8.

Add: A16R47, HP Part No. 0757-0406, RESISTOR 182 1% .125W F, Mfr Code 01074, Mfr Part No. H8.

Add: A16VR5, A16VR6, HP Part No. 1902-3086, DIODE-ZENER 4.75V 2% D0-7 PD=.4W, Mfr Code 02037, Mfr Part No. SZ10939-90.

**CHANGE 2 (Cont'd)**

Table 6-2 (Cont'd),

Schematic 1,

Delete: A16C20, A16Q11, A16Q12, A16R41, A16R42, A16R43, A16VR3, and A16VR4.

Add: A16C21, A16CR8, A16P5, A16Q13, A16Q14, A16R44, A16R45, A16R46, A16R47, and A16VR5 as shown below:

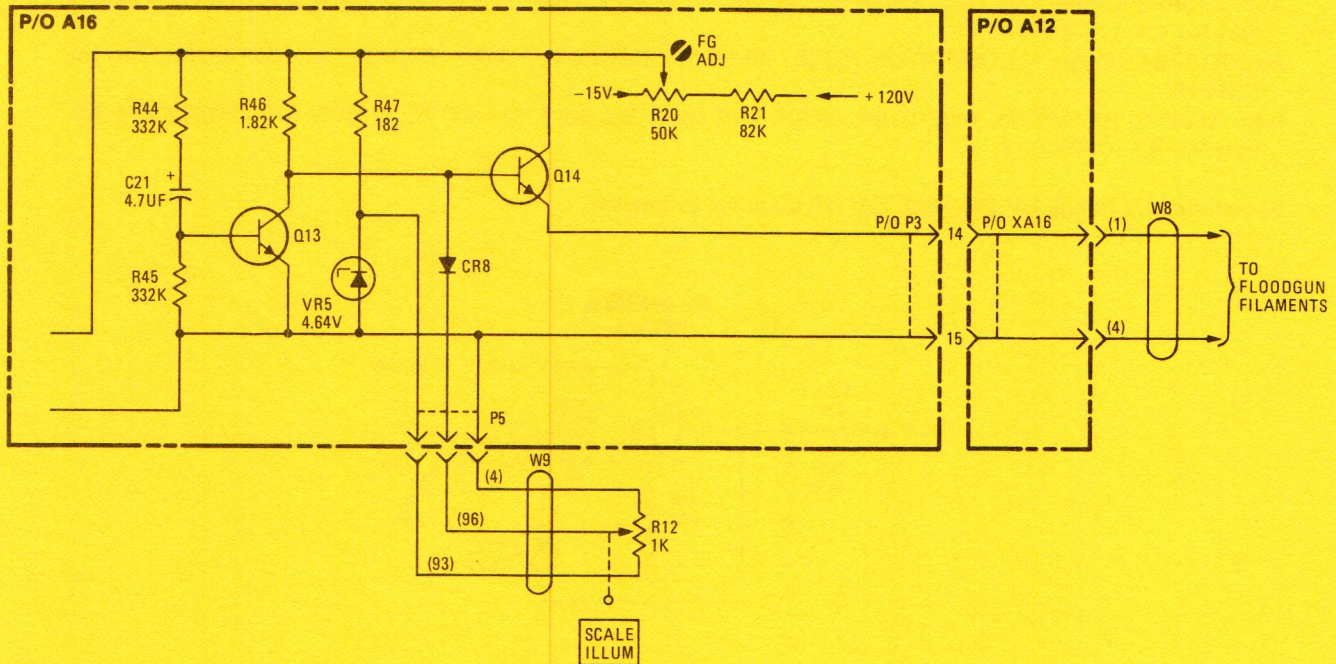
**CHANGE 3**

Table 6-2,

A14: Change HP Part No. and Mfr Part No. to 01740-66540.

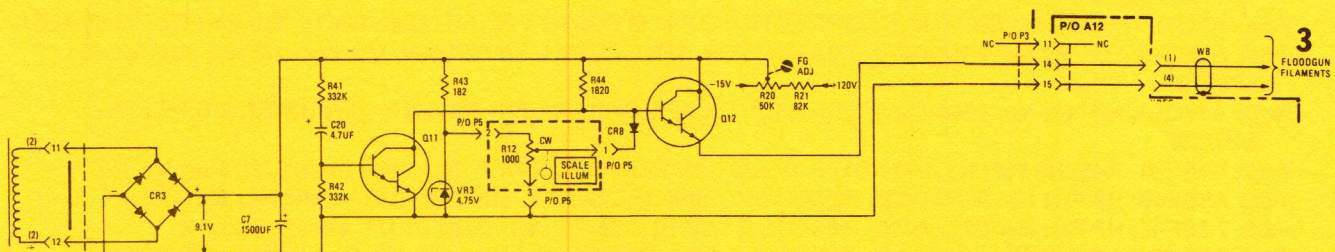
A14 Option 101: Change HP Part No. and Mfr Part No. to 01740-66541.

A14XA16: Change to HP Part No. 1251-5092, CONNECTOR 15-PIN, Mfr Code 28480, Mfr Part No. 1251-5092.

A16: Change HP Part No. and Mfr Part No. to 01740-66542.

A16P2: Change to HP Part No. 1251-5093, CONNECTOR 15-PIN, Mfr Code 28480, Mfr Part No. 1251-5093.

Modify Schematic 1 as shown below:



**CHANGE 4**

Figure 6-1,

Add: Item 29, HP Part No. 2190-0018, Qty 2, WASHER-LK HLCL NO. 6. 141-IN-ID, Mfr Code 28480, Mfr Part No. 2190-0018.

Add: Item 30, HP Part No. 2360-0195, Qty 2, SCREW-MACH 6-32 .312-IN-LG PAN-HD-POZI, Mfr Code 28480, Mfr Part No. 2360-0195.

Add: Item 31, HP Part No. 3050-0010, Qty 2, WASHER-FL MTLC NO. 6. 147-IN-ID, Mfr Code 28480, Mfr Part No. 3050-0010.

Table 6-2,

Change: L2, HP and Mfr Part Nos. to 01336-66002.

Change: MP65, HP and Mfr Part Nos. to 01740-60602.

**CHANGE 5**

Table 6-2. Replaceable Parts,

Change: A3 HP Part No. and Mfr Part No. to 01740-66567.

Change: A3 (OPTION 101), HP Part No. and Mfr Part No. to 01740-66579.

Change: A5, HP Part No. and Mfr Part No. to 01740-66572.

Change: A7, HP Part No. and Mfr Part No. to 01740-66566.

Change: A7 (OPTION 101), HP Part No. and Mfr Part No. to 01740-66578.

Change: A8, HP Part No. and Mfr Part No. to 01740-66568.

Change: A9, HP Part No. and Mfr Part No. to 01740-66565.

Change: A11, HP Part No. and Mfr Part No. to 01740-66569.

Change: A12, HP Part No. and Mfr Part No. to 01740-66571.

Change: A13, HP Part No. and Mfr Part No. to 01740-66564.

Change: A15, HP Part No. and Mfr Part No. to 01740-66570.

Change: A16, HP Part No. and Mfr Part No. to 01740-66563.

Change: T1, HP Part No. and Mfr Part No. to 9100-2619.

Change: W3, HP Part No. and Mfr Part No. to 01740-61628.

Change: W7, HP Part No. and Mfr Part No. to 01740-61629.

Change: W8, HP Part No. and Mfr Part No. to 01743-61609.

Change: A3P2, HP Part No. and Mfr Part No. to 1251-5346.

Change: A3P3, HP Part No. and Mfr Part No. to 1251-6149.

Change: A3P4, HP Part No. and Mfr Part No. to 1251-6149.

Change: A5XA3, HP Part No. and Mfr Part No. to 1251-6137.

Change: A7XA9, HP Part No. and Mfr Part No. to 1251-6006.

Change: A7P2, HP Part No. and Mfr Part No. to 1251-6009.

Change: A7P3, HP Part No. and Mfr Part No. to 1251-5346.

Change: A7P4, HP Part No. and Mfr Part No. to 1251-6148.

Change: A7P5, HP Part No. and Mfr Part No. to 1251-6012.

Change: A8XA7, HP Part No. and Mfr Part No. to 1251-6136.

Change: A9P1, HP Part No. and Mfr Part No. to 1251-6105.

Change: A11XA7, HP Part No. and Mfr Part No. to 1251-6001.

Change: A12P1, HP Part No. and Mfr Part No. to 1251-3898.

Change: A12XA16, HP Part No. and Mfr Part No. to 1251-6007.

Change: A13XA3P3, HP Part No. and Mfr Part No. to 1251-6014.

Change: A13XA3P4, HP Part No. and Mfr Part No. to 1251-6014.

Change: A15XA12, HP Part No. and Mfr Part No. to 1251-6136.

Add: A16C21, HP Part No. 0160-5028, 1, CAPACITOR-FXD .1UF 500VDC CER, Mfr Code 72982, Mfr Part No. 8141-500-X7RO-101K.

**CHANGE 5 (Cont'd)**

Add: A16C23, HP Part No. 0160-3670, CAPACITOR-FXD .1UF 200VDC CER, Mfr Code 72982, Mfr Part No. 8131-M212-651-104M.

Add: A16C24, HP Part No. 0160-3670, CAPACITOR-FXD .1UF 200VDC CER, Mfr Code 72982, Mfr Part No. 8131-M212-651-104M.

Add: A16C25, HP Part No. 0160-3670, CAPACITOR-FXD .1UF 200VDC CER, Mfr Code 72982, Mfr Part No. 8131-M212-651-104M.

Add: A16C26, HP Part No. 0160-3670, CAPACITOR-FXD .1UF 200VDC CER, Mfr Code 72982, Mfr Part No. 8131-M212-651-104M.

Change: A16P1, HP Part No. and Mfr Part No. to 1251-6008.

Change: A16P3, HP Part No. and Mfr Part No. to 1251-6009.

Change: A16P4, HP Part No. and Mfr Part No. to 1251-5346.

**Section VIII. Schematic 1,**

Add: C21 to T1 across pins 1 and 2.

Add: C22 to T1 across pins 3 and 4.

Add: C23 to T1 across pins 11 and 12.

Add: C24 to T1 across pins 9 and 10.

Add: C25 to T1 across pins 7 and 8.

Add: C26 to T1 across pins 5 and 6.

**CHANGE 6**

Page 6-3, Table 6-2. Replaceable Parts.

Change: A4, HP and Mfr Part No. to 01740-61633, CD6.

Page 6-9, Table 6-2. Replaceable Parts.

Change: A4, HP and Mfr Part No. to 01740-61633, CD6.

**▲ CHANGE 7**

Page 6-5, Table 6-2. Replaceable Parts.

Change: A8, HP and Mfr Part No. to 01740-66593.

Change: A9, HP and Mfr Part No. to 01740-66592.

Page 6-13, Table 6-2. Replaceable Parts.

Change: A8, HP and Mfr Part No. to 01740-66593.

Page 6-14, Table 6-2. Replaceable Parts.

Change: A9, HP and Mfr Part No. to 01740-66592.

Page 6-15, Table 6-2. Replaceable Parts.

Change: A9R5 to HP and Mfr Part No. 0761-0011, RESISTOR 3.3K 5% 1W MO TC=0±200, Mfr Code 28480.

Change: A9U1 to HP Part No. 1826-0311, IC OP AMP GP 8-DIP-P PKG, Mfr Code 04713, Mfr Part No. MLM201AP1.

Delete: A9XU1.

Page 8-25, Schematic 10.

Change: A9R5 to 3300 ohms.